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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/881,965 05/16/97 KUZMA

A 42390.P1901R

LM02/0928

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*Ch*  
EXAMINER

LEE, R

ART UNIT	PAPER NUMBER
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2713

*12*

DATE MAILED:

09/28/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No. <b>08/881,965</b>	Applicant(s) <b>Kuzma</b>
	Examiner <b>Richard Lee</b>	Group Art Unit <b>2713</b>

Responsive to communication(s) filed on Sep 14, 2000

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

Claim(s) 1-13 and 15-20 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) 1 is/are allowed.

Claim(s) 2-13 and 15-20 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims \_\_\_\_\_ are subject to restriction or election requirement.

#### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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1. Upon further search and consideration, and in view of newly discovered references, the following art rejections are deemed proper. Consequently, the finality of the last Office Action (Paper no. 8) is hereby vacated in view of the following new grounds of rejections. The Examiner apologizes for any inconvenience that this may have caused for the applicant.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Nonoshita et al (5,905,821).

Nonoshita et al discloses a compression/expansion circuit as shown in Figures 1-4, and the same apparatus as claimed in claim 18, comprising the same encoder (see columns 3-6 and Figure 22) for producing encoded real-time information; compression circuitry (i.e., 8 of Figure 2 and see Figure 21, columns 1 and 3-6) coupled to the encoder for producing compressed data based upon a previously stored transmit reference (i.e., from 2 of Figure 2) and the encoded real-time information; a plurality of output buffers (see 52 of Figure 1, and 70-73 of Figure 4) coupled to the compression circuitry for storing the compressed data; and a network interface (i.e., 7 of Figure 2) coupled to the plurality of output buffers, the network interface transmitting compressed data from a selected output buffer of the plurality of output buffers, the compressed

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data from the selected output buffer when used in conjunction with the previously stored transmit reference approximating a next frame expected by a receiving apparatus (see 57 of Figure 1 and columns 5-6);

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-8, 11, 15, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonoshita et al as applied to claim 18 in the above paragraph (3), and further in view of Barberis et al (4,320,500).

Nonoshita et al discloses substantially the same apparatus as above, further including a transmit reference buffer (i.e., 2 of Figure 2) for storing a current transmit reference; compression circuitry coupled to the encoder (see 8 of Figure 2 and columns 3-6) and to the transmit reference buffer (i.e., 2 of Figure 2) for producing compressed data based upon the current transmit reference and the encoded real-time information; wherein the compressed data comprises a differential between the encoded real-time information and the current transmit reference (see column 1, columns 5-6); storing differential data in one of a plurality of output buffers (see 52 of Figure 1, 70-73 of Figure 4, and columns 1 and 3-6); and transmitting differential data from the current transmit buffer over the network (see 7 of Figure 2 and columns 3-6).

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Nonoshita et al does not particularly disclose, though, the selected output buffer containing compressed data which accommodates one or more characteristics of the network better than compressed data in at least one other buffer of the plurality of output buffers; the selected output buffer contains compressed data which accommodates one or more characteristics of the network better than compressed data in all other buffers of the plurality of output buffers; the contents of a selected output buffer of the plurality of output buffers to be transmitted onto a data communications channel of a network based upon one or more characteristics of the data communications channel; the network interface determining the selected output buffer and transmitting data over the network from the selected output buffer; the selected output buffer contains compressed data which, when used in conjunction with the current transmit reference and the current transmit reference, accommodates the one or more characteristics of the data communications channel better than compressed data from at least another buffer of the plurality of output buffers; wherein the one or more characteristics of the data communications channel include transmission delay on the data communications channel; selecting a selected output buffer with reference to one or more predetermined coding strategies, whether compressed data from the selected output buffer is appropriate for transmission to a receiving node; and determining whether the differential data in a particular transmit buffer accommodates one or more characteristics of the network better than differential data in at least one other buffer of the plurality of buffers as claimed in claims 2-7, 11, 15, 19, and 20. The particular selection of an output buffer based on characteristics of a network to provided a selected output buffer which

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accommodates one or more characteristics including transmission delays of the network better than at least one other or all other buffers to be transmitted onto a data communications channel of a network, in general, is old and well recognized in the art, as exemplified by Barberis et al (see column 4, lines 20-63). Therefore, it would have been obvious to one of ordinary skill in the art, having the Nonoshita et al and Barberis et al references in front of him/her and the general knowledge of selected buffer output devices for network channel accommodations, would have had no difficulty in providing the particular selection of an output buffer based on characteristics of a network to provided a selected output buffer which accommodates one or more characteristics including transmission delays of the network better than at least one other or all other buffers to be transmitted onto a data communications channel of a network as taught by Barberis et al for the network interface and buffer control as shown in Figures 1 and 2 of Nonoshita et al for the same well known output buffer control for network interface operations purposes as claimed.

6. Claims 12, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nonoshita et al and Barberis et al as applied to claims 2-8, 11, 15, 18-20 in the above paragraphs (3) and (5), and further in view of Jeong (5,497,153).

The combination of Nonoshita et al and Barberis et al disclose substantially the same apparatus as above, but does not particularly disclose the encoded real-time information includes video and audio information, and wherein the one or more predetermined coding strategies include minimizing artifacts as claimed in claims 12, 13, and 16. However, Jeong discloses a

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system for variable length coding and variable length decoding digital data for compression transmission data as shown in Figure 5, and teaches the conventional video and audio real time encodings (see column 1, lines 20-25), as well as coding strategies minimizing artifacts before transmission (i.e., as provided by 52, 54 of Figure 5, and see column 5, line 16 to column 6, line 36). Therefore, it would have been obvious to one of ordinary skill in the art, having the Nonoshita et al, Barberis et al, and Jeong references in front of him/her and the general knowledge of video/audio encoders with coding strategies, would have had no difficulty in providing the video and audio encoder with artifact minimization effects as shown in Figure 5 of Jeong for the compression circuit 8 of Figure 2 of Nonoshita et al for the same well known purposes as claimed.

7. Claims 9, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Nonoshita et al and Barberis et al as applied to claims 2-8, 11, 15, 18-20 in the above paragraphs (3) and (5), and further in view of Khalil (5,343,465).

The combination of Nonoshita et al and Barberis et al disclose substantially the same apparatus as above, but does not particularly disclose wherein the one or more characteristics of the data communications channel include bandwidth availability and burstiness of traffic on the data communications channel, and allocating available bandwidth to achieve a higher frame rate as claimed in claims 9, 10, and 17. However, Khalil discloses a method and system for real time burstiness analysis of network traffic as shown in Figure 1 and 8, and teaches the conventional measuring and analysis of the burstiness of network traffic and allocation of available bandwidth

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to support specific services (see column 2, lines 27-66). Therefore, it would have been obvious to one of ordinary skill in the art, having the Nonoshita et al, Barberis et al, and Khalil references in front of him/her and the general knowledge of network traffic conditions with bandwidth allocations, would have had no difficulty in providing the burstiness analysis of network traffic with coding strategies including the allocation of available bandwidth for the system as shown in Figure 2 of Nonoshita for the same well known purposes as claimed.

8. Claim 1 is allowed.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsumura et al discloses an error-corrected facsimile communication control system.

Asamura et al discloses a video encoder using adjacent pixel difference for quantizer control.

Yamanaka et al discloses a data exchange apparatus.

Roposh discloses a method for operating an asynchronous packet bus for transmission of asynchronous and isochronous information.

Gusella et al discloses a flexible scheme for admission control of multimedia streams on integrated networks.

Shobatake discloses a packet switching device.

Bruckert et al discloses a buffer system for input/output portion of digital data processing system.

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Catanzaro et al discloses an image and audio communication system having graphical annotation capability.

Tobagi et al discloses a process for fair and prioritized access to limited output buffers in a multi-port switch.

**10. Any response to this action should be mailed to:**

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**or faxed to:**

(703) 308-9051, (for formal communications intended for entry)

**Or:**

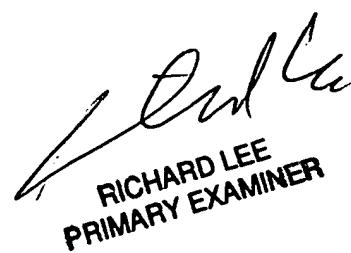
(703) 308-5359 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA., Sixth Floor (Receptionist).

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (703) 308-6612.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.



A handwritten signature in black ink, appearing to read "Richard Lee".

RICHARD LEE  
PRIMARY EXAMINER

Richard Lee/rl

9/27/00